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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,575	04/18/2005	Takashi Noro	123532	1882
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/531,575

Applicant(s)

NORO ET AL.

Examiner

Brenda A. Lamb

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/6/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 16-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta et al.

Fukuta et al teaches a process and apparatus of a coating apparatus which is comprised of the following elements: a holding means which holds the pillar structure in nearly vertical direction and rotates together with the held pillar structure on an axis of nearly vertical direction as a common rotating axis, a supplying and coating means which is disposed at a given position with respect to the outer peripheral surface of the pillar structure and supplies a coating material to the outer peripheral surface of the

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rotating pillar structure and coats the coating material on the outer peripheral surface, and a smoothing means which smoothes the coating surface of the coating material supplied to and coated on the outer peripheral surface, wherein the supplying and coating means has a nozzle having an opening in the form of a slit for supplying the coating material toward the outer peripheral surface and coating the coating material thereon and the opening of the nozzle is disposed in nearly vertical direction with the position of the upper end of the opening being nearly the same as the position of the upper end of the pillar structure and, and the smoothing means is disposed in nearly vertical direction in such a state as keeping a given distance from the outer peripheral surface or contacting with the outer peripheral surface, and wherein the coating material is supplied from the opening of the nozzle to the upper side of the outer peripheral surface of the pillar structure and coated thereon, and the coating surface of the coating material supplied and coated is smoothed between an area of the outer peripheral surface which includes an area between the upper and lower side of the outer peripheral surface and the longer side end portion of the smoothing means to form a uniform coating surface on the whole outer peripheral surface of the pillar structure.

Fukuta et al teaches the length of the pillar structure being coated by the coating apparatus varies and teaches at least one of the upper and lower pallet is vertically movable along guide rails to obviously accommodate substrate having different length to be held there between. Fukuta et al teaches at column 4 lines 5-12 that the length of the smoothing means in the longer direction is such that it may touch at least one of the upper and lower pallet of the holding means. Fukuta et al shows in his Figures that the

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slot of the supplying and coating means is shorter in length relative to the smoothing means. Fukuta et al fails to teach the length of the nozzle opening along its longitudinal axis is less than or is shorter than the length between the both ends of the pillar structure. Therefore, given the silence of Fukuta et al of changing the nozzle assembly to correspond to a different length of structure to be coated and the height adjustability of at least one the pallets along the pair of guide rails 2 which extend a length which is substantially equivalent length of the smoothness means or doctor blade, it would have been prima facie obvious that the Fukuta et al apparatus can coat a variety of heights of pillar structures including one such that its length relative to the length of the slot of the Fukuta et nozzle assembly and doctor blade of the Fukuta et al smoothing means is within the scope of the claim for the obvious reason of reason of greater control of the coating process. Fukuta et al is capable of coating a structure within the scope of claim since it teaches every claimed element of the apparatus. Thus claim 16 is obvious over Fukuta et al. With respect to claim 17, Fukuta et al apparatus is capable of holding elongate structures having a range of different lengths including one wherein the length of the nozzle relative to elongate structure is within the scope of the claim via height adjustment of the at least one of the upper and lower pallet. With respect to claim 18, Fukuta et al teaches the holding means has a pedestal which holds the pillar structure in the vertical direction placed thereon with one end thereof facing downward. With respect to claim 19, Fukuta et al teaches the holding means has a cam which presses downwardly another end of the pillar structure held on the pedestal and rotates on the axis of the nearly vertical direction as a common rotating axis. With respect to claim 20,

Fukuta et al teaches the outer peripheral shape of the pedestal and that of the cam are nearly the same. With respect to claim 21, Fukuta et al teaches the apparatus is further comprised of a centering means which holds the pillar structure and the pedestal and/or the cam in a given positional relation. With respect to claim 22, Fukuta et al teaches the apparatus is further comprised of a following means as shown in Figure 2 which drives the smoothing means following the outer periphery of the pedestal and/or the cam so that the smoothing means is disposed at a given position with respect to the outer peripheral surface of the pillar structure. With respect to claim 23, Fukuta et al teaches the following means has first and second following rollers which are disposed at a given distance from each other and move backward and forward following the outer periphery of the cam while contacting with the outer periphery of the cam together with the supplying and coating means and the smoothing means, and the first and second following rollers are disposed so that the angle formed by a line passing through the centers of the respective rollers and the smoothing means is a given angle. With respect to claim 24, Fukuta et al teaches the following means further has third and fourth following rollers which move backward and forward following the outer periphery of the pedestal while contacting with the outer periphery of the pedestal together with the supplying and coating means and the smoothing means, and the rotating axis of the third following roller and that of the first following roller are common and the rotating axis of the fourth following roller and that of the second following roller are common. With respect to claim 25, Fukuta et al teaches the outer periphery of the pedestal and/or the cam is comprised of a stainless steel or ceramics. With respect to claim 26, Fukuta et al

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teaches the smoothing means comprises stainless steel or wear-resistant ceramics.

With respect to claim 27, Fukuta et al teaches the shape of a section of the pillar structure cut along a plane perpendicular to the direction of the central axis of the pillar structure is circular or elliptical. With respect to claim 28, Fukuta et al is capable of coating a pillar structure which is a honeycomb structure comprising a plurality of cells which serve as flow paths for fluid since it teaches every element of the claimed apparatus. With respect to claim 29, Fukuta et al teaches the supplying and coating means and the smoothing means can rotate together along the outer periphery of the pillar structure. With respect to claim 30, Fukuta et al teaches a method for coating outer peripheral surface of a pillar structure wherein the method is comprised of the following steps of holding the pillar structure by the holding means, the supplying and coating means on the outer peripheral surface of the pillar structure and coating the coating material thereon while rotating the pillar structure and the holding means on the axis of nearly vertical direction as a common rotating axis, and smoothing the coating surface of the supplied and coated coating material between the outer peripheral surface and the longer side end portion of the smoothing means. Fukuta et al fails to teach the length of the nozzle opening along its longitudinal axis is less than or is shorter than the length between the both ends of the pillar structure. Therefore, given the silence of Fukuta et al of changing the nozzle assembly to correspond to a different length of structure to be coated and the height adjustability of at least one the pallets along the pair of guide rails 2 which extend a length which is substantially equivalent length of the smoothness means or doctor blade, it would have been prima facie

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obvious to provide the Fukuta et al nozzle assembly with a length that is shorter than some of the taller length structures to be coated in order prevent coating of the support structure which includes the upper and lower pallet when supporting the shorter length structures.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The originally filed specification fails to teach the pillar structure with two ends including an upper end as well as an outer peripheral surface wherein the outer peripheral surface has a lower portion as well as an upper and lower side and coating is smoothed between the upper and lower side of the outer peripheral surface and smoothing means to form uniform coating on the whole outer peripheral surface of the pillar.

The recitation that the pillar structure with two ends including an upper end as well as an outer peripheral surface wherein the outer peripheral surface has a lower portion as well as an upper and lower side broadly reads on a variety of shaped

structures that are not disclosed by the originally filed specification such as a hexagonal shaped structure.

The Figures in the originally filed specification clearly depict a cylinder shaped structure having an outer peripheral surface and coating is smoothed between the upper and lower end of the outer peripheral surface by the smoothing means forming a uniform coating there between.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16-30 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation in claim 1 that the smoothing means has a length in longer direction which is not shorter than the length between the both ends of the pillar structure and is disposed in nearly vertical direction in such a state as keeping a given distance from the outer peripheral surface or contacting with the outer peripheral surface and a lower portion formed from a distance between a lower end of the smoothing means and a position being nearly the same as the position of the lower end of the opening that corresponds to a lower side of the outer peripheral surface of the pillar structure is confusing since it unclear how "a lower portion" relates to the "the outer peripheral surface" of the pillar structure and to "a lower side of the outer peripheral surface of the pillar structure". The term "the upper side" of the outer peripheral surface at line 27-28 of claim 1 lacks proper antecedent basis. Claim 1 is

confusing since it is unclear how the ends of the pillar structure which includes to the upper end of the pillar structure relates to the upper and lower side of the outer peripheral surface of the pillar structure set forth at lines 27-28 of claim 1 especially in view applicant has claimed that the coating is smoothed "between" the upper and lower side of the outer peripheral surface yet claims uniform coating on the whole outer peripheral surface of the pillar structure.

Applicant's arguments filed 3/6/2008 have been fully considered but they are not persuasive.

Applicant's argument that Fukuta et al fails to teach a lower portion formed from a distance between a lower end of the smoothing means and a position being nearly the same as the position of the lower end of the opening that corresponds to a lower side of the outer peripheral surface of the pillar structure is found to be non-persuasive. As discussed above, the recitation in claim 1 that the smoothing means has a length in longer direction which is not shorter than the length between the both ends of the pillar structure and is disposed in nearly vertical direction in such a state as keeping a given distance from the outer peripheral surface or contacting with the outer peripheral surface and a lower portion formed from a distance between a lower end of the smoothing means and a position being nearly the same as the position of the lower end of the opening that corresponds to a lower side of the outer peripheral surface of the pillar structure is confusing since it unclear how "a lower portion" relates to the "the outer peripheral surface" of the pillar structure and to "a lower side of the outer peripheral surface of the pillar structure". The examiner maintains that Fukuta et al

teaches at column 4 lines 5-12 that the length of the smoothing means in the longer direction is such that it may touch at least one of the upper and lower pallet of the holding means and uniformly apply coating supplied from the coating means to the outer peripheral surface of the pillar structure or cylinder shaped structure.

Applicant's argument that Fukuta et al fails to teach that the coating material is supplied and smoothed between the upper side and lower side of the outer peripheral surface is found to be non-persuasive. As discussed above, claim 1 is confusing since it is unclear how the ends of the pillar structure which includes to the upper end of the pillar structure relates to the upper and lower side of the outer peripheral surface of the pillar structure set forth at lines 27-28 of claim 1 especially in view applicant has claimed that the coating is smoothed "between" the upper and lower side of the outer peripheral surface and applicant has also claimed the outer peripheral surface as having a lower portion yet claims uniform coating on the whole peripheral surface of the pillar structure. Note it is suggested to clarify this confusion that applicant amend the claims to recite that applicant is coating a "cylinder shaped" structure to clarify the shape of the substrate or structure one is coating and recite that the coating is supplied and smoothed between upper end and lower end of the cylinder shaped substrate. The examiner maintains that Fukuta et al teaches at column 4 lines 5-12 that the length of the smoothing means in the longer direction is such that it may touch at least one of the upper and lower pallet of the holding means and uniformly apply coating supplied from the coating means to the outer peripheral surface of the pillar structure or cylinder shaped structure.

Applicant's argument that Fukuta et al fails to teach that the nozzle has a length in a longer direction which is shorter than the length between the both ends of the pillar structure is found to be non-persuasive. This argument implies with reference to the apparatus claims that Fukuta et al must teach the method step in which a pillar structure is provided such that its length between the both ends relative to the length of nozzle opening along its longitudinal axis is within the scope of the claims whereas the issue with respect to the claimed apparatus as set forth in claim 16 is whether the prior art apparatus, Fukuta et al, obviously has the capability to hold a pillar structure having a length such that such its length between the both ends relative to the length of nozzle opening along its longitudinal axis is within the scope of the claims. Therefore, with reference to apparatus claim 16, examiner maintains given the silence of Fukuta et al of changing the nozzle assembly to correspond to a different length of structure to be coated and the height adjustability of at least one the pallets along the pair of guide rails 2 which extend a length which is substantially equivalent length of the smoothness means or doctor blade, it would have been prima facie obvious that the Fukuta et al apparatus can coat a variety of heights of pillar structures including one such that its length relative to the length of the slot of the Fukuta et nozzle assembly and doctor blade of the Fukuta et al smoothing means is within the scope of the claim for the obvious reason of reason of greater control of the coating process. Further with respect to claim 30, the examiner maintains that given the silence of Fukuta et al of changing the nozzle assembly to correspond to a different length of structure to be coated and the height adjustability of at least one the pallets along the pair of guide rails 2 which extend

a length which is substantially equivalent length of the smoothness means or doctor blade, it would have been prima facie obvious to provide the Fukuta et al nozzle assembly with a length that is shorter than some of the taller length structures to be coated in order prevent coating of the support structure which includes the upper and lower pallet when supporting the shorter length structures.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda A. Lamb whose telephone number is (571) 272-1231. The examiner can normally be reached on Monday-Tuesday and Thursday with alternate Wednesdays and Fridays off. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton, can be reached on (571)

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272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brenda A Lamb
Examiner
Art Unit 1734

/Brenda A Lamb/

Primary Examiner, Art Unit 1792